

### **REMARKS**

Claims 1, 7, 11, 12, 13, 14, 15, 25 are amended, no claims are canceled, and no claims are added; as a result, claims 1-26 are now pending in this application.

### **Information Disclosure Statement**

Applicant submitted a Supplemental Information Disclosure Statement and a 1449 Form on June 2, 2004. Applicant respectfully requests that an initialed copy of the 1449 Form be returned to Applicants' Representatives to indicate that the cited references have been considered by the Examiner.

### **Drawings Objection**

The objection to the drawings has been addressed herein by adding the missing numbers 205 of FIG. 2, 329 of FIG. 3G, and 425 of FIGs. 4A-4G to the correct portions of the specification. No new matter is believed proposed. Applicant thanks the Examiner for pointing out these typographical errors, and submits that the drawings are now in proper condition.

### **§102 Rejection of the Claims**

Claims 1-4, 6, 9, 11-15, and 25 were rejected under 35 USC § 102(b) as being anticipated by Itoh et al. (U.S. Patent No. 5,793,154). Applicant respectfully traverses this rejection.

The cited document of Itoh is seen as teaching a field emitter having a gate material that acts as a getter to prevent oxygen from forming an oxide on the emitter, as discussed in the cited reference at least at the abstract; column 2, lines 10-14, 17-20 and 65-67; column 3, lines 4-10 and 60-63; column 4, lines 1-3 and 31-36. Thus the cited document, Itoh, does not describe the claimed structure of claims 1-4, 6, 9, 11-15, and 25. Specifically, applicant can not find where Itoh teaches at least the claimed feature of at least one emitter comprising silicon having a coating that releases electrons at a predetermined energy level, as recited in claims 1-4, 6, 9, 11-15, and 25, as amended herein. Applicant can find no teaching in Itoh of an emitter made of silicon, and it appears that Itoh actually teaches away from the recited structure since the bonding strength of silicon is greater than that of any of the materials used for the gate of Itoh's structure.

Therefore, the suggested structure of Itoh is not the same as the claimed structure of claims 1-4, 6, 9, 11-15, and 25, the function is different and thus the cited document is inappropriate and the rejection should be withdrawn.

The dependent claims are seen as patentable at least as depending upon base claims shown above to be patentable over the cited document (Itoh), and further as reciting additional patentable features over the cited reference. Specifically, claim 2 recites that the coating decomposes at least one matter in the outgassing, which clearly the cited document of Itoh does not, since the cited document teaches gettering to attach oxygen, not to decompose oxygen. Applicant therefore respectfully requests that this rejection be withdrawn.

Claims 1, 7, 10, and 26 were rejected under 35 USC § 102(b) as being anticipated by Debe (U.S. Patent No. 5,726,524). Applicant respectfully traverses this rejection.

The cited document of Debe is seen as teaching an organic material for the emitter body having a conformal emissive coating, since the organic materials are not electro-emissive, and the coating is a getter for impurities. The specification of the Debe appears to discuss the material of the emitter body and the substrate as being an organic material at least at column 3, lines 44-53; column 5, lines 66-67; column 7, lines 2-12; column 8, lines 27-36 and 50-63.

Applicant can not find anything in Debe teaching that the emitter is comprised of silicon, and it would appear that Debe teaches away from the claimed features of claims 1, 7, 10 and 26 since the organic material is described as being preferably comprised of chains or rings having delocalized Pi electron density such as polynuclear aromatic hydrocarbons and heterocyclic aromatic compounds, such as organic pigments (see column 3, lines 44-53) and polyester (see column 8, line 62-68). Further, Debe that the conformal coating can comprise materials selected to have gas pumping properties by gettering (see column 4, lines 3-6; column 12, lines 59-65). Gettering is the attachment of an impurity by a material (that is 'gas pumping' as discussed in column 4, line 5), and is not the same function or method as a coating that is stable in the presence of outgassing to inhibit degradation, which is found in the specification of the present invention at least on page 2, lines 21-22.

Thus Applicant respectfully submits that the claimed structure of claims 1, 7, 10, and 26 is different from the cited document, Debe, at least because of an emitter comprised of silicon,

and not an organic material, and coatings have a different function, as noted above. Therefore, since each and every feature of the claims is not found in the cited document, Debe, then the cited document is inappropriate and the rejection should be withdrawn. Applicant therefore respectfully requests that this rejection be withdrawn.

### **§103 Rejection of the Claims**

Claims 5 and 8 were rejected under 35 USC § 103(a) as being unpatentable over Itoh et al. in view of Takemura (U.S. Patent No. 5,666,020). Applicant respectfully traverses this rejection.

The features of the cited document of Itoh have been discussed above with reference to the rejections of claims 1-4, 6, 9, 11-15, and 25. The outstanding Office Action uses the cited document of Takemura to show the missing feature of the coating being a silicide compound. The cited document of Takemura is seen as teaching an emitter having the top of the emitter tip having the highest resistance of any other part during conduction (see column 4, lines 45-48 and column 5, lines 13-16). Takemura appears to teach that it is preferred that the emitter has resistance that simply increases in a direction toward the top of the emitter. Applicant respectfully submits that this described structure is not the same as the claimed structure of claim 5, at least in that the section of the specification indicated by the Office Action states that the *top* of the emitter is coated with a third material (see column 5, lines 22-23) and that the emitter is highly resistive *except* for the *top* of the emitter, which has a lower resistance (see figure 6 and column 11, lines 18-26). By comparison, the recited features of claim 5 include that the recited emitter coating, which is shown in figures 4B and 4C and discussed in the specification at least on pages 9 and 10, cover substantially the entire emitter 401, over the distance 425. Thus the Takemura structure is different than the claimed structure, and the suggested combination of Itoh and Takemura documents still does not contain all of the claimed features of claims 5 and 8, thus the suggested combination of document is inappropriate and the rejection should be withdrawn. Applicant therefore respectfully requests that this rejection be withdrawn.

Claims 16 and 17 were rejected under 35 USC § 103(a) as being unpatentable over Itoh et al. in view of Tjaden et al. (U.S. Patent No. 5,770,919). Applicant respectfully traverses this rejection.

The features of the cited document of Itoh have been discussed above with reference to the rejections of claims 1-4, 6, 9, 11-15, and 25. The outstanding Office Action uses the cited document of Tjaden to show the missing feature of the light emitting target being coated with a luminescent or phosphorescent compound. The Tjaden document is seen as being directed towards a series resistor being associated with each micropoint emitter to prevent over current situations (see claim 1, and column 3, line 65 to column 4, line 6). Applicant respectfully submits that even if the suggested combination of Itoh and Tjaden were allowable, the result would still not contain all of the features of the claims. Specifically, applicant can not find where Tjaden repairs the failure of Itoh to teach the composition of the at least one emitter, as discussed above with reference to the 35 USC § 102 rejection over Itoh. Therefore, the suggested combination of Itoh and Tjaden is inappropriate and the rejection should be withdrawn. Applicant respectfully requests that this rejection be withdrawn.

Claims 18-22 were rejected under 35 USC § 103(a) as being unpatentable over Hush (U.S. Patent No. 5,663,742) in view of Takemura. Applicant respectfully traverses this rejection.

The features of Takemura have been discussed above with reference to the rejection of claims 5 and 8 under 35 USC § 103(a). Hush is seen as teaching that to reduce the number of rows of a field emission display, every *n*th shift cell of the row register is left disconnected (see column 2, lines 29-31), which reduces the number of rows in the array and improves yield and reduces the minimum dimension of the array.

Takemura is used in the outstanding Office Action to show the missing feature of Hush of the emitter having a coating that releases electrons and is stable in the presence of outgassing. As discussed above, the cited reference to Takemura discloses an emitter having the top portion of the emitter tip having the highest resistance (see column 4, lines 45-48 and column 5, lines 13-16). Takemura teaches that it is preferred that the emitter has resistance that simply increases in a direction toward the top of the emitter.

Applicant submits that the structure of Takemura is not the same as the claimed structure of claim 18-22, since Takemura states that the *top* of the emitter is coated with a third material (see column 5, lines 22-23) and that the emitter is highly resistive *except* for the *top* of the emitter, which has a lower resistance (see figure 6 and column 11, lines 18-26). By comparison, the recited features of claims 18-22 include that the recited emitter coating, which is shown in the figures 4B and 4C, and discussed in the specification at least at page 9, line 24 to page 10, line 17, to cover essentially the entire emitter with dimension 425. Thus the structure is different than the claimed structure, and the suggested combination of references still does not contain all of the claimed features of claims 18-22. Applicant submits that the suggested combination of references is inappropriate and that the rejection should be withdrawn.

Claims 23 and 24 were rejected under 35 USC § 103(a) as being unpatentable over Hush in view of Takemura and Haase et al. (U.S. Patent No. 5,684,358). Applicant respectfully traverses this rejection.

The features of Hush and Takemura have been discussed above. Haase is used in the Office Action to show the missing feature of a flat panel television display. Claims 23 and 24 depend from independent claim 18. Applicant respectfully submits that it has been shown above that independent claim 18 is patentable over the suggested combination of Hush in view of Takemura. In light of the above, Applicant respectfully submits that dependent claims 23 and 24 are patentable over the suggested combination of Hush in view of Takemura and Haase, at least as being dependent upon an allowable base claim. The addition of the cited reference of Haase is not seen as curing the above noted deficiencies of the suggested combination of Hush and Takemura, and the suggested combination still does not result in all of the features of claims 23 and 24 taken with the features of base claim 18. Applicant therefore submits that the suggested combination of references is inappropriate and that the rejection should be withdrawn.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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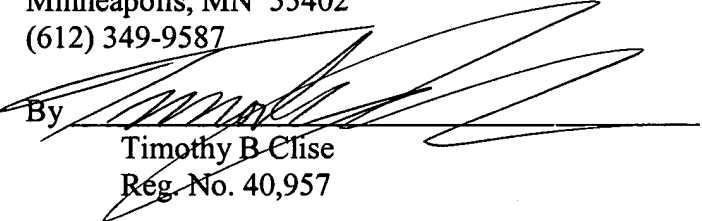
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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 9 day of September, 2004.

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